

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



| | | | |
|------------------------------------------------------------------------------------------|----------------------|------------------------|------------|
| TRANSMITTAL FORM (to be used for all correspondence, after initial filing) | Application Number | 10/694,383 | |
| | Filing Date | October 27, 2003 | |
| | First Named Inventor | Kandimalla et al. | |
| | Art Unit | NA | |
| | Examiner Name | NA | |
| Total Number of Pages in This Submission | 5 | Attorney Docket Number | HYB-005US4 |

| ENCLOSURES (Check all that apply) | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please Identify below): |
| Remarks * Copy of postcard * PTO Form 1 449 | | |

| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT | |
|--------------------------------------------|-----------------------------------------|
| Firm or Individual name | Wayne A. Keown, Ph.D. (Reg. No. 33,923) |
| Signature | <i>W. A. Keown</i> |
| Date | 2/5/04 |

| CERTIFICATE OF TRANSMISSION/MAILING | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------|
| I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below. | | |
| Typed or printed name | Laura Labrier | |
| Signature | <i>Laura Labrier</i> | Date 2/5/04 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kandimalla et al.
Serial No.: 10/694,383
Filed: October 27, 2003
Entitled: Modulation of Immunostimulatory Activity of
Immunostimulatory Oligonucleotide Analogs by Positional
Chemical Changes
Examiner: NA
Group Art Unit: NA
Attorney Docket No.: HYB-005US4 (1006/006)

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Applicants and their attorney are aware of the following publications and information listed on the attached PTO Form 1449, and in accordance with 37 C.F.R. §1.97 hereby submit these publications for the Examiner's consideration.

Applicants state that the current application is a Divisional application claiming priority to U.S. Patent Application Serial No. 09/965,116, filed September 26, 2001. Applicants also state that the references listed on the attached PTO Form 1449 were previously cited in the parent case and therefore copies of the references are not enclosed herewith.

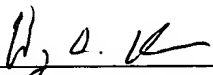
This submission does not represent that a search has been made and does not constitute an admission that the listed documents are material to patentability or that the listed documents are prior art. If it should be determined that any of the listed documents constitute "prior art"

under United States law, Applicants reserve the right to present to the Office relevant facts and law regarding the appropriate status of such documents.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits and is therefore submitted as both timely and proper. Therefore, no fees are believed to be due.

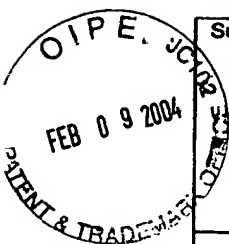
Respectfully submitted,

Date: 2/5/04



Wayne A. Keown
Reg. No. 33,923

Keown & Associates
500 West Cummings Park
Suite 1200
Woburn, MA 01801
781-938-1805 (Telephone)
781-938-4777 (Facsimile)



| | | | |
|--------------------------------------------------------------------------------------|---|------------------------------------|----------------------------------|
| Subt. Form PTO-1449 | | Docket Number HYB-005US4 | Application Number 10/694,383 |
| INFORMATION DISCLOSURE IN AN APPLICATION (Use several sheets if necessary) | | Applicant Kandimalla et al. | |
| | | Filing Date 10/27/03 | Group Art Unit NA |
| Sheet | 1 | OF | 2 |

| U.S. Patent Documents | | | | | | |
|-----------------------|-----------------|----------|----------------|-------|----------|----------------------------|
| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
| | 5,149,798 | 09/22/92 | Agrawal et al. | 536 | 27 | |

| Foreign Patent Documents | | | | | | |
|--------------------------|-----------------|------|---------|-------|----------|-----------------------|
| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION YES NO |
| | WO99/62923 | | PCT | | | |

| | | Other Documents (Including Author, Title, Date Pertinent Pages, Etc.) |
|--|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | C1. | Khorana et al. (1972) "Studies on Polynucleotides," <i>J. Molec. Biol.</i> 72:209 |
| | C2. | Reese (1978) "The Chemical Synthesis of Oligo- and Poly-Nucleotides By The Phosphotriester Approach," <i>Tetrahedron</i> 34:3143-3179 |
| | C3. | Beaucage et al. (1981) "Deoxynucleoside Phosphoramidites - A New Class of Key Intermediates for Deoxypolynucleotide Synthesis," <i>Tetrahedron Lett.</i> 22:1859-1862 |
| | C4. | Connolly et al. (1984) "Synthesis and Characterization of an Octanucleotide Containing the EcoRI Recognition Sequence With A Phosphorothioate Group At The Cleavage Site," <i>Biochemistry</i> 23:3443 |
| | C5. | Agrawal et al. (1987) "Oligodeoxynucleotide Methylphosphonates: Synthesis and Enzymic Degradation," <i>Tetrahedron Lett.</i> 28(31):3539-3542 |
| | C6. | Jager et al. (1988) Oligonucleotide N-Alkylphosphoramidates: Synthesis and Binding to Polynucleotides," <i>Biochemistry</i> 27:7237 |
| | C7. | Agrawal et al. (1988) "Oligodeoxynucleoside Phosphoramidates and Phosphorothioates As Inhibitors of Human Immunodeficiency Virus," <i>Proc. Natl. Acad. Sci. USA</i> 85:7079-7083 |
| | C8. | Zon et al. (1991) "Phosphorothioate Oligonucleotides" <i>Oligonucleotides and Analogues: A Practical Approach</i> pp. 87-108 |
| | C9. | Kuramoto et al. (1992) "Oligonucleotide Sequences Required For Natural Killer Cell Activation," <i>Jpn. J. Cancer Res.</i> 83:1128-1131 |
| | C10. | Crooke (1993) "An Overview of Progress in Antisense Therapeutics," <i>8 Antisense & Nucl. Acid Drug Dev.</i> 115-122 CRC Press, Boca Raton, Florida |
| | C11. | Zon (1993) "Protocols for Oligonucleotides and Analogs," <i>Methods in Molecular Biology</i> Vol. 20, pp. 165-189 |
| | C12. | Pisetsky et al. (1994) "Stimulation of Murine Lymphocyte Proliferation By A Phosphorothioate Oligonucleotide With Antisense Activity For Herpes Simplex Virus," <i>54 Life Sci.</i> 101 |
| | C13. | Yamamoto et al. (1994) "Lipofection of Synthetic Oligodeoxyribonucleotide Having a Palindromic Sequence of AACGTT to Murine Spenocytes Enhances Interferon Production and Natural Killer Activity," <i>38 Microbiol. Immunol.</i> 831 |
| | C14. | Agrawal et al. (1995) "Modified Oligonucleotides as Therapeutic and Diagnostic Agents," <i>Curr. Opin. Biotechnol.</i> 6:12-19 |
| | C15. | Krieg et al. (1995) "CpG Motifs In Bacterial DNA Trigger Direct B-Cell Activation," <i>Nature</i> 371:546-549 |
| | C16. | Klinman et al. (1996) "CpG Motifs Present in Bacterial DNA Rapidly Induce Lymphocytes to Secrete Interleukin 6, Interleukin 12, and Interferon γ ," <i>93 Proc. Natl. Acad. Sci. USA</i> 2879 |
| | C17. | Liang et al. (1996) "Activation of Human B Cells By Phosphorothioate Oligodeoxynucleotides," <i>J. Clin. Invest.</i> 98:1119-1129 |
| | C18. | Zhao et al. (1996) "Effect of Different Chemically Modified Oligodeoxynucleotides on Immune Stimulation," <i>Biochem. Pharm.</i> 51:173-182 |
| | C19. | Chu et al. (1997) "CpG Oligodeoxynucleotides Act As Adjuvants That Switch On T Helper 1 (Th1) Immunity," <i>186 J. Exp. Med.</i> 1623 |

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| EXAMINER | DATE CONSIDERED |
| EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant. | |

| | | | | | | | |
|-----------------------------------------------------------------------------------------------------|---|----|---|-------------------|--|--------------------|--|
| Subt. Form PTO-1449 | | | | Docket Number | | Application Number | |
| INFORMATION DISCLOSURE IN AN APPLICATION <i>(Use several sheets if necessary)</i> | | | | HYB-005US4 | | 10/694,383 | |
| | | | | Applicant | | | |
| | | | | Kandimalla et al. | | | |
| Sheet | 2 | OF | 2 | Filing Date | | Group Art Unit | |
| | | | | 10/27/03 | | NA | |

[illegible]

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| EXAMINER | DATE CONSIDERED |
| EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant. | |